

DP-303531

5 AUTOMOTIVE IGNITION MONITORING SYSTEM  
WITH MISFIRE AND FOULED PLUG DETECTION

Abstract Of The Disclosure

10 An automotive ignition diagnostic system includes an ion current  
detection circuit producing a buffered representation of an ion current flowing  
across an electrode gap of an ignition plug in response to a bias voltage applied  
thereto. An ignition diagnostic circuit is responsive to the buffered representation  
of the ion current to charge a single integration capacitor. The diagnostic circuit  
is operable to produce an output signal having a pulse width defined by the  
amount of charge on the capacitor. When the ion current flows following a  
15 combustion event, the width of the output signal is controlled as a function of the  
quality of combustion in the corresponding cylinder. However, if sufficient ion  
current flows prior to combustion, the width of the output signal is controlled to  
indicate a fouled ignition plug.

T06040"59E2B60